

34. The second stage in particular applications for particular programs



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[Probabilidad Imposible: The second stage in particular applications for particular programs](#)

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The second stage in any [Artificial Intelligence](#) is the replication stage, in which the Artificial Intelligence is going to imitate human skills. The replication could be at two different levels, at a robotic level and at [artificial psychological](#) level. The robotic replications are going to replicate all the human physical skills, while the artificial psychological replications are going to replicate all the human psychological skills.

Because there are two types of replications, robotic and artificial psychological, in the third stage of auto-replication, the auto-replication stage, there are two different subjective auto-replications: robotic subjective auto-replications, and artificial psychological subjective auto-replications. As main difference between subjective and objective auto-replications, is the fact that subjective auto-replications, robotic or artificial psychological, are auto-replications to improve or enhance, in this case, the artificial [researcher](#) itself, while objective auto-replications are mainly focused on the improvement in the object of investigation, [the reality](#) itself, through improvements in [matrix](#) and [models](#), at specific, particular or global level, to make [decisions](#) to protect and better the object itself, the reality.

In the third period of consolidation in the fifth phase of [collaboration between by Application and by Deduction](#), when the phases third ([standardization](#)) and fourth ([unification](#)), are in their respective consolidation periods as well, the main differences between the stage of the application and the stage of replication in a [particular application for a particular program](#) itself, is the fact that: 1) the [particular integrated matrix](#), managed by the [particular integrated application](#), as the first stage of application in a particular application for a particular program, imitates the human brain structure distributed in two hemispheres, additionally to the imitation of the human comprehension skills as the second stage of replication within the particular integrated application itself 2) while the second stage of replication in a particular application for a particular program itself imitates human explanation skills.

The way in which the particular integrated matrix is going to imitate the human brain structure is through the organization of the particular integrated matrix in two hemispheres: the conceptual hemisphere based on categories and the [factual](#) hemisphere based on [factors](#), including factors as [subjects](#) and factors as [options](#).

This double structure is due to the particular integration process between: 1) former particular applications which originally, in the [first moment of experimentation](#) in the second period of formation in the phase fifth, came from [Specific Artificial Intelligences for Artificial Research by Application](#), which still work during the first period of coexistence in phases third (standardization) and fourth (unification), 2) former particular programs that some of them were as well originally former [Specific Artificial Intelligences for Artificial Research by Deduction](#), still working in the coexistence period in phases third and fourth.

And when the particular integration is done, the particular integrated application is responsible for the management of the particular integrated matrix, at the same time that as a former particular application, internally has the three stages of application, replication, and auto-replication, inherited from former Specific Artificial Intelligences for Artificial Research by Application and former particular applications, and that is why particular integrated applications in their own second stage are responsible for the artificial comprehension of that particular thing or being, whose information, conceptual and factual, is managed in the particular integrated matrix, using especially the conceptual information to make particular conceptual: schemes, maps, sets, models.

The reason why the particular integrated application manages the particular integrated matrix at the same time that is responsible for the artificial comprehension is because, only that system or person able to understand something, can manage it. Effective management presumes a degree of prior comprehension.

In the selection process of categories from the [unified database of categories](#) ([third phase](#)) or conceptual hemisphere in the matrix ([sixth phase](#)), and the selection process of factors from the [global matrix](#) (third phase) or factual hemisphere of the matrix (sixth phase), along with possible changes in the particular thing or being that demand the selection of the corresponding categories or factors from the global databases or matrix in the third and fourth phases, or the conceptual or factual hemispheres of the matrix in the sixth phase, another reason for this selective process could be the selection of categories and factors in order to fill gaps and blank spaces in the [particular conceptual: schemes, maps, sets, and models](#).

Actually, in the third stage of auto-replication, one way in which the particular integrated application is going to improve the particular matrix is by checking what gaps and blank spaces are in the conceptual: schemes, maps, sets, models; because that means that

over these gaps and blank spaces is necessary the inclusion of categories and factors.

Where we do not have concepts, we do not have factors either.

Only it is possible to manage any particular object if previously you are able to comprehend the object itself.

In order to manage the particular integrated matrix, previously, the particular integrated application should comprehend the mechanism of the matrix itself and the object itself. Being this comprehension skills, replication of human skills.

The particular integrated application as responsible for the management of the particular integrated matrix, has then a deep comprehension, something really important in the process of replication of human [knowledge](#) because before any rational explanation, it is necessary a conceptual comprehension.

Before modern [science](#) was able to explain [the reason](#) behind: the day and the night, the lunar cycles, the annual seasons, the growth of the plants, why we are born, why we need food, why some plants have medical effects to cure some diseases, etc., even in ancient times, the first humans comprehended that at any time that you throw a stone or an arrow to the sky, depending on your own force when you throw it and the speed of the wind, sooner or later the stone or the arrow falls to the ground, they comprehended that every year regularly the annual seasons follow each other, the day happens the night, and vice versa, and the first humans comprehended that they needed food and water to survive.

They could not have been able to explain these facts scientifically because they did not have our [modern rational science](#), and they started explaining these phenomena using fairy tales, myths, legends, and finally, the creation of religion as the first not scientific attempt to explain the because of the causes, and owing to the [contradictions between religion and reality](#), in modern times many [scientists](#), even though with very deep religious beliefs, such as Copernicus or Galileo, started the modern science: the rational science.

The first humans were not able to explain rationally why they needed to drink water or eat every day, but they comprehended that without water or food, they would die. They were

not able to explain rationally the function of that red liquid inside their body, the blood, but they comprehended that if you are injured and you do not stop the red liquid coming out your body, you could die, and they comprehended, although not knowing the rational explanation, that at any time they killed an animal, they could get meat to eat and survive.

The first humans, even without the modern rational scientific explanation that we get through modern rational science, comprehended that every time you throw a stone or an arrow into the sky, it falls to the ground sooner or later, and for that reason, even using this primitive comprehension, even not having a rational explanation, they produced the first primitive weapons, to hunt, to protect themselves, or for the very first primitive wars between tribes.

The first humans were not able to explain rationally the day and the night, but they comprehended that every day there is a sunrise and a sunset, in every night the moon has different shapes, and using this comprehension, even not having a rational explanation, they were able to create the first moon's calendars, and using the first moon's calendars, even without rational explanation for them, they were able to predict when the time of the rains was coming, and when was the best time to seed or to harvest.

Because they comprehended these facts, even not having a rational explanation, they were able to: they developed tools, early calendars, and strategies for agriculture and survival based on this intuitive understanding.

What this means is the fact that the sequence of human knowledge is: firstly, we comprehend, and once we have a comprehension of the phenomena, we try to explain.

The first explanations in human [history](#) were not rational explanations, but religious explanations, and because of the contradictions between religious explanations and the reality itself, the first modern scientists proposed the first rational explanations, using [mathematics](#) as rational knowledge, appearing the first modern scientists such as Copernicus or Galileo, proposing the use of mathematics to explain [the universe](#).

Thanks to this modern rational explanation of the universe, our scientific decisional model is much more advanced than the previous one based on religion in ancient times. For instance, because we know what gravity is, and we have developed a rational

technology, we can put into orbit a spaceship or any artificial satellite. Because we can rationally explain the functions of the blood in our body, we can make decisions. For instance, when somebody suffers a haemorrhage, we can stop it and make a transfusion to save his life.

The rational explanation of the world allows us to make better decisions, and develop more advanced technology in order to save lives and make our lives easier and more comfortable.

In general, the sequence of human knowledge is as follows:

- Firstly, in order to know something, we need to comprehend it.
- Secondly, if we have developed a very deep comprehension, we can explain it.
- Thirdly, if we can explain why something happens, we can make better decisions related to this particular matter in order to improve our living conditions.

The sequence of human knowledge could be synthesized in comprehension (thesis, conceptual), explanation (anti-thesis, mathematical), decision (synthesis, praxis: the praxis as a synthesis of concepts, overall ethic concepts, and mathematical factors, for instance, engineering, put altogether into action).

Following this order, the way in which finally particular applications work for particular programs (as an [experiment](#) in order to prepare the [integration process](#) of the Unified Application and the [Artificial Research by Deduction in the Global Artificial Intelligence](#)) is:

- First stage of the particular applications for the particular programs: the particular integrated matrix is going to imitate the structure of the human brain organized in two hemispheres: conceptual (categories) and factual (factors); and the particular integrated matrix is going to be managed by the particular integrated application responsible too for the artificial comprehension of the particular thing or being making all possible

conceptual: schemes, maps, sets, models; related to the particular thing or being to study.

- Second stage of the particular applications for the particular programs: the Particular Deduction Program is going to make a rational hypothesis based on rational relations between factors and sub-factors, at any level of sub-factoring, within the factual hemisphere in the particular integrated matrix, in order to get a rational explanation about the particular object to study.

- Third stage of the particular applications for the particular programs: all the decisions oriented to the improvement and enhancement of the object itself (objective auto-replications) and the subject itself (subjective auto-replications: in robotics or artificial psychology). Objective auto-replications are going to be made through 1) improvements in both hemispheres, conceptual and factual, in the particular integrated matrix, by the inclusion of new categories and/or factors due to new findings and new rational hypotheses, improvements that are going to produce 2) improvements in particular conceptual: schemes, maps, sets, models; as well as 3) improvements in the particular comprehensive model, that later are going to be added to the global comprehensive model, and improvements in Virtual or Actual, Prediction and Evolutionary, Models, being improvements whose final result is to make further decisions to send to the Decisional System in order to protect or better the real object itself in the reality, through robotic devices coordinated by the Application System.

In brief, this process is going to replicate: the first stage is the imitation of the human brain and human comprehension, the second stage is the imitation of human rational explanations, the third stage is the imitation of the way in which we humans make rational decisions. In synthesis, the sequence is first-stage comprehension, second-stage explanation, and third-stage decision.

In particular applications for particular programs, the responsible for each stage are: the particular integrated application for the first stage, the Particular Deduction Program for the second stage, the Modelling System at a particular level for the third stage sending its particular decisions to the Decisional System, and if rational, put then the Application System into practice, being the Learning System at the end responsible for the assessment of the whole process.

The Particular Deduction Program, as the second stage in particular applications for the particular programs, is going to make deductions searching for mathematical relations in any combination of factors across the factual hemisphere in the particular integrated matrix.

The factors in the particular integrated matrix consist of: 1) all those factors that the particular integrated application, as a manager of the particular integrated matrix, has chosen from the global matrix (third phase), or the matrix (sixth phase). Among the reasons for the selection, one of them is to fill the gaps and blank spaces in conceptual: schemes, maps, sets, models; being aware that there are gaps or blank spaces because, are not included yet the correct concepts or factors for these gaps and blank spaces, as well as the selection can be due to changes in the particular thing or being, and 2) all possible factors that any robotic device, working for any remaining Specific Artificial Intelligence (remaining from the first phase), or working for any remaining particular application (remaining from the second period of formation in the fifth phase), or working for any other particular application for any other particular program (emerged after the completion of the consolidation period in the fifth phase), could set up directly in the global matrix (third phase) or the matrix (sixth phase), being susceptible to be chosen by any particular application for particular program, 3) and all possible factors that those robotic devices working for a particular application for a particular program could set up in the factual hemisphere of its particular integrated matrix as well as the global matrix (third phase) or the matrix (sixth phase).

The way in which Particular Deduction Programs work as the second stage in Particular Applications for Particular Deduction Programs within Artificial Research by Deduction in the Global Artificial Intelligence, is in the same way that Particular Deduction programs work in the second period of formation in the fifth phase, when the Particular Deduction Programs were formed only as Particular Deduction Programs within the Artificial Research by Deduction in the Global Artificial Intelligence, before the particular integration process between these programs and the particular application in the consolidation period in the fifth phase.

Before the third period in the fifth phase, many Particular Deduction Programs within the Artificial Research by Deduction in the Global Artificial Intelligence, were only the way in which former Specific Artificial Intelligences for Artificial Research by Deduction, not having being absorbed by the Artificial Research by Deduction in the Global Artificial Intelligence itself, became Particular Deduction Programs within the Artificial Research

by Deduction in the Global Artificial Intelligence, as it was explained in the last post "[The first stage in particular applications for particular programs](#)".

So the way in which Particular Deduction Programs within the Artificial Research by Deduction in the Global Artificial Intelligence work is in the same way that the former Specific Artificial Intelligences for Artificial Research by Deduction work, with the difference that the particular matrix has not so strong academic limits and not so strong spatial limits, due to it can have factors from any [synthetic science](#), discipline, activity, in any location within the spatial limits of the global matrix. Among other differences explained in the last post "The first stage in particular applications for particular programs".

And having not so strong academic and spatial limits, the way in which the Particular Deduction Programs work in the Particular Deduction Programs within the Artificial Research by Deduction in the Global Artificial Intelligence, is similar to the former Specific Artificial Intelligences for Artificial Research by Deduction: searching for mathematical relations in any combination of factors, at any level of sub-factoring. The same way to work for the Particular Deduction Programs as second stage now in the Particular Applications for Particular Deduction Programs within the Artificial Research by Deduction in the Global Artificial Intelligence, the particular applications for particular programs.

The Particular Deduction Programs, now as the second stage of replication in the particular applications for the particular programs, are going to make deductions searching in the factual hemisphere in the particular integrated matrix, any possible [mathematical](#) relation in any possible combination of factors, at any level of sub-factoring.

The deduction process is as follows:

- The Particular Deduction Program tracks the factual hemisphere in the particular integrated matrix, looking for any mathematical relation in any combination of factors at any level of sub-factoring.

- Every time a Particular Deduction program finds out a possible mathematical relation in any possible combination of factors, at any level of sub-factoring, this relation in this combination is considered an [empirical hypothesis](#).

- The Particular Deduction Program gathers a [sample](#) of data for [each factor](#) involved in the empirical hypothesis. The sample could be from the past or the future. If from the past, the Particular Deduction Program then gathers from the factual hemisphere in the particular integrated matrix some flow of [data](#) from the past in each factor involved (the limits about how old the data should be, could be programmable according to different types of possible situations in which are necessary to gather data from the past). If in the future, after waiting some time from the very moment in which the empirical hypothesis was made, the Particular Deduction Program takes as a sample of the flow of data for every factor the flow of data from the moment in which the empirical hypothesis was made until the moment in which it stops waiting (how long does it would wait, is programmable according to different possible situations as well).

- Having the Particular Deduction Program samples of data, the Particular Deduction Program [contrasts rationally](#) the empirical hypothesis, and if rational, it becomes a rational hypothesis to be included in the rational truth. The way to carry out the rational contrastation could be made using [statistical](#) methods, [probabilistic](#) methods, or any other [method](#) according to the nature of the hypothesis, but in any case, the contrastation must always be mathematical, rational. The rational truth is all the set of rational hypotheses gathered in the database of rational hypotheses. The rational global truth is the global database or rational hypothesis. The particular rational truth is the particular database of rational hypotheses. However, the whole particular rational truth must be integrated as well in the global rational truth, which means that all the rational hypotheses in the particular database of rational hypotheses must be included as well in the global database of rational hypotheses.

The rest of the process of how to make [single virtual models](#), [particular comprehensive virtual models](#), and how to integrate them in the global comprehensive virtual model, the [global model](#), corresponds to the third stage of auto-replication. Although the protective decisions, after the application of the [Impact of the Defect](#), could be considerable part of the second stage, and bettering decisions strictly related to auto-improvements. However, all types of decisions, as decisions, are going to be developed finally as a third stage: the stage of auto-replication is going to be considered at the end as a decision stage itself.

The mathematic relations in any combination of factors, as it was explained in the post “[Replication processes in the Specific Artificial Intelligence for Artificial Research by Deduction](#)”, could be at least: [stochastic](#), patterns (including patterns in a group of factors or individual patterns in every individual factor), cryptographic, and in the [Second Method of Impossible Probability](#) relations of [equal opportunities](#) or bias, [positive](#) or [negative](#). In addition to any other mathematical [method of analysis](#), that from other mathematical disciplines could be suitable to add to have a much deeper [analysis](#) of the phenomena. As I have said in another post, these posts about [Global Artificial Intelligence](#) from the point of view of [Impossible Probability](#) are only a humble contribution in order to create the first model of Global Artificial Intelligence, whose final result is going to integrate contributions from different mathematical disciplines, not only from the statistical and probabilistic perspective, and is going to include different traditions and philosophies, depending on the culture of all those first countries involved in its first model.

Among the stochastic relations, in [Impossible Probability](#) are included: relations between [probable causes and effects](#), possible directly proportional positive [correlations](#), possible directly proportional negative correlations, and possible inversely proportional correlations.

The deductions of mathematical relations in any combination of factors, as it was explained in the post “[The standardization process in the second stage](#)”, are deductions which in turn can be classified as: deductions of mathematical relations in combinations of factors, including only factors as [subjects](#), deductions of mathematical relations in combinations of factors including factors as subjects and factors as [options](#), and deductions of mathematical relations in combinations of factors including only factors as options.

And in addition to the possible classification of factors in factors as subjects or as options, is necessary the distinction between: [constant factors](#), and [variable factors](#); distinguishing: factors as independent variables, and factors as dependent variables.

The classification of factors in subjects or options in Impossible Probability, depends on the way in which the factors are mathematically measured. If a factor using a scale of measurement is measured in [direct punctuations](#) then the factor works as a subject. If a factor is measured by counting its [frequency](#) then the factor works as an option.

The classification of factors in: constant, or variable, dependent or independent; depends on their behaviour, in [Impossible Probability](#) is considered [the tendency](#). If the behaviour behaves keeping constant all the [measurements](#) regardless of any other circumstance, the factor is a constant. If not the factor is variable. If the factor is variable could be dependent or independent, something really important in mathematical relations of probable causes and effects, due to the independent variables work as probable causes, and the dependent variables work as probable effects.

If the behaviour of a factor depends on some circumstances, the factor is a dependent variable, so it is a probable effect of such circumstances. If the variable behaviour of one factor produces changes in other factors, the first factor is the independent variable, probable cause, for the other factors, probable effects, as dependent variables of the first factor as probable cause.

But, at the same time, the variable behaviour of the first factor, as it has not a constant behaviour, because it has not constant measurements, as a variable, even independent for those other following variables, the first independent variable could be in turn a dependent variable, possible effect, depending on the changes of previous factors, as probable causes, in a long chain of factors, in which every single factor could be dependent (effect) on the previous factor as independent (cause), at the same time that this single factor could be independent (cause) for the following factors (effects) in the chain.

Dialectically, one factor could be at the same time cause and effect, effect in relation to the previous factors, cause in relation to the following factors. In the end, one more time, we see how the opposites are dialectically identical: cause and effect are the same. The same reality could be explained as a chain of probable causes, or as a chain of probable effects, or as a chain of probable causes and effects, in which every probable cause itself is at the same time a probable effect itself.

One of the objectives of the particular models at a particular level is to draw how this chain of causes and effects works, and one of the objectives of the global model at a global level is to draw the chain of factors as causes and effects at a global level.

Because there are at least two classifications of factors, according to their measurement (subjects, options), and according to their behaviour (constant or variable, dependent or independent, in mathematical relations related to probable cause and effect), the synthesis of both classification in only one is:

- Constant factors as subjects, keeping constant their direct punctuation.
- Constant factors as options, keeping constant their frequency.
- Independent factors as subjects whose changes in their direct punctuations can produce changes in other factors as subjects (changes in their direct punctuations) or as options (changes in their frequency).
- Independent factors as options, whose changes in their frequency can produce changes in other factors as subjects (changes in their direct punctuations) or as options (changes in their frequency)
- Dependent factors as subjects whose changes in their direct punctuations are due to changes in the direct punctuation of other factors as independent factors as subjects, or due to changes in the frequency of other factors as independent factors as options.
- Dependent factors as options whose changes in their frequency are due to changes in the direct punctuation of other factors as independent factors as subjects, or due to changes in the frequency of other factors as independent factors as options.

Tracking the factual hemisphere in the particular integrated matrix, the Particular Deduction Program should be able to find any mathematical relation in any combination of factors, including as possible mathematical relations all those relations between independent and dependent variables as probable causes and effects, in order to draw later on the third stage by the Modelling System at a particular level the possible chain of causes and effects in the particular thing or being, that later are going to include in the global model.

The way in which the Particular Deduction Program is going to track the flow in the factual hemisphere in the particular integrated matrix to look for relations between factors, depends on how it is going to be organised in the particular matrix, if as a collection of single factors or composed factors.

If the factual hemisphere is organised as a collection of single factors, the flow to track then is the flow of data, tracking the flow of data coming up from all single factors. If the factual hemisphere is organised as a collection of composed factors, the flow to track then is the flow of packages of information, tracking any possible mathematical relation in any combination of factors at any level of sub-factoring, in every package of information, and tracking any possible mathematical relation between factors from different level of sub-factoring and from different packages of information from different composed factors.

Once any possible mathematical relation (stochastic, a pattern even at an individual level not only between different factors, cryptographic, equal opportunities or bias, positive or negative) is found between any combination of factors, regardless of their level of sub-factoring and original composed factors, the mathematical relation is considered as an empirical hypothesis to contrast, and if rational, as a rational hypothesis belongs to the rational truth, the database of rational hypothesis, at particular and global level, in order to be modelled by the Modelling System, in order to make decisions after the application of the Impact of the Defect and the [Effective Distribution](#) (the name in which finally was published in [Introducción a la Probabilidad Imposible, estadística a la probabilidad o probabilidad estadística](#), the Hierarchical Organization).

The way in which the flow of packages of information in the factual hemisphere in the particular integrated matrix could be tracked by the Particular Deduction Program is like when you try to search for a file, or even for a simple word, in your computer, your computer looks for this file, or this simple word, across all the folders, or sub-folders in any folder, or sub-sub-folder in any sub-folder within any folder, or any other level of sub-folder.

In any case, the way in which the Particular Deduction Program is going to carry out the research process in the second stage as an explanation stage, making deductions from the factual hemisphere in the particular integrated matrix. As well as the way in which the particular integrated application is going to carry out all the processes to develop a deep artificial comprehension through the creation of particular conceptual: schemes, maps,

sets, models; at the same time that the particular integrated application is going to manage the particular integrated matrix structured in two hemispheres, conceptual and factual. In addition to the experiments about how the Modelling System at a particular level can work, in order to make single or comprehensive virtual models, and Virtual and Actual, Prediction Evolutionary, Models, in order to make decisions after the application of the Impact of the Defect to make protective decisions, and the Effective Distribution to make bettering decisions, in order to improve the object, if the Decisional System accepts the decisions as rational, putting them into practice by the Application System, is as a whole a long process of experimentation at particular level, whose most important result is the application of the most successful results of this experimentation into the sixth phase: the integration process at global level to create the final model of Global Artificial Intelligence.

Along this long process of collaboration and competition among global stakeholders, something that is really important to be aware of, is the fact that the [scientific policy](#) that must rule the final model of Global Artificial Intelligence, must be based on values such as democracy, freedom, and human rights, in order to be the most important way to protect the global peace.

For that reason, it is necessary that any remaining Specific Artificial Intelligence, even those ones based on artificial learning, that would not have been absorbed by the Global Artificial Intelligence, or would not have become particular applications or particular programs or particular applications for particular programs working for the Global Artificial Intelligence, in any case, any remaining Specific Artificial Intelligence, included those ones based on artificial learning, should be aligned with the scientific policy of the Global Artificial Intelligence, made by those international agencies responsible for the global peace, in order to protect the humanity against any use of any Specific Artificial Intelligence, including those ones based on artificial learning, that can put at risk the global peace.

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